In the Specification

Please replace the paragraph bridging pages 5-6 with the following paragraph.

Referring to Figure 1, 2A, 2B and 3, an antenna to which the present invention is applicable has an antenna element structure with four longitudinally extending antenna elements 10A, 10B, 10C, and 10D formed as narrow metallic conductor track portions on the cylindrical outer surface of a ceramic core 12. The core has an axial passage 14 housing a coaxial feeder with an outer screen 16 and an inner conductor 18. The inner conductor 18 and the screen 16 form a feeder structure for connecting a feed line to the antenna elements 10A - 10D. The antenna element structure also includes corresponding radial antenna elements 10AR, 10BR, 10CR, 10DR formed as metallic track portions on a distal end face of the core 12, connecting ends of the respective longitudinally extending elements 10A - 10D to the feeder structure. The other ends of the antenna elements 10A - 10D are connected to a common virtual ground conductor 20 in the form of a plated sleeve surrounding a proximal end portion of the core 12. This sleeve 20 is in turn connected to the screen 16 of the feeder structure 14 by plating on the proximal end face 12P of the core 12.

Please replace the paragraph at lines 17-33 of page 7 with the following paragraph

The conductive sleeve 20 covers a proximal portion of the antenna core 12, thereby surrounding the feeder structure 16, 18, with the material of the core 12 filling the whole of the space between the sleeve 20 and the metallic lining 16 of the axial passage 14. The sleeve 20 forms a cylinder connected to the lining 16 by the plating of the proximal end face 12P of the core 12. The combination of the sleeve 20 and the plating 22 forms a balun so that signals in the transmission line formed by the feeder structure 16, 18 are converted between an unbalanced state at the proximal end of the antenna and an approximately balanced state at an axial position generally at the same distance from the proximal end as the upper linking edge 20U of the sleeve 20. To achieve this effect, the average sleeve length is such that, in the presence of an underlying core material of relatively high relative dielectric constant, the balun has an average electrical length in the region of $\lambda/4$ at the operating frequency of the antenna. Since the core material of the antenna has a foreshortening effect, and the annular space surrounding the inner conductor 18 is filled with an insulating dielectric material having a relatively small dielectric constant, the feeder structure distally of the sleeve 20 has a short electrical length. Consequently, signals at the distal end of the feeder structure 16, 18 are at least approximately balanced.

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Please replace the paragraph at lines 9-20 of page 9 with the following paragraph

A better understanding of the way in which the antenna operates and the affect of the apertures will be obtained by referring to the graph of Figure 4. Figure 4 was obtained by monitoring the radio frequency currents in the helical track portions 10A, 10B, 10C, and 10D adjacent the rim 20U of the sleeve 20 (i.e. the currents in the proximal end portions of the helical track position 10A - 10D) whilst the antenna was fed through its feeder structure 16, 18 with a swept frequency signal over a band encompassing the required operating frequency. There are four traces representing current phase and four representing current amplitude, each phase and amplitude trace being associated with one of the track portions10A - 10D. The phase traces are indicated by the reference numerals 30A, 30B, 30C, and 30D and the amplitude traces are indicated by the reference numerals 32A, 32B, 32C, and 32D. For completeness, a ninth trace 34 indicates the insertion loss looking into the feeder structure at the source end.

Please replace the paragraph at lines 23-33 of page 10 with the following paragraph

A test arrangement for performing the phase and amplitude measurements will now be described with reference to Figures 5 and 6. To monitor phase and amplitude in the region of the required operating frequency, the antenna 40 is moved into a testing location at the centre of a star-configuration probe array formed by probes 42A, 42[,]B, 42C, and 42D slidably mounted on radial tracks 44A, 44B, 44C, and 44D. In the test location, the antenna 40 is situated at a required height and rotational orientation (made possible by a notch (not shown) cut in one of the edges of the antenna end faces), so that the probes 42A to 42D are in registry with the proximal end portions 46A, 46B, 46C, 46D of the tracks 10A, 10AR, to 10D, 10DR, i.e. adjacent the rim 20U of the balun sleeve 20 (see Figure 1). The feed structure of the antenna 40 is proximally connected to the output 48 of a swept frequency r.f. source in a test unit.